

H-204258

REMARKS

Claims 1-12, 14, and 23-30 are pending in the present application. Claims 1, 2, 14, and 24 have been amended and Claims 31 and 32 have been added, leaving Claims 1-12, 14, and 23-32 for consideration upon entry of the present amendment.

Claims 1 and 24 have been amended to further define the endplate. Support for the amendment to Claims 1 and 24 can be found on at least in Claim 2 as originally filed, as well as in the Figures. Claims 2 and 14 have been amended for the purpose of better defining the invention and for consistency with the claims from which they depend.

Claims 31 and 32 have been added to further define the endplates. Support for these new claims can be found in the Figures as well as on page 6, lines 12 - 14.

The specification has been amended to correct the informalities noted in the Office Action.

The drawings, Figures 1, 4, and 5 have been amended. Figure 5 was amended to address an objection. In reviewing Figure 5, Applicants noticed that the Figure did not accurately represent the cross-section illustrated. Figures 1, 4, and 5 are "cross-sectional side views" (see Brief Description of the Drawings), however, a cross-sectional end view of the substrate as shown. To correct this inadvertent error, Applicants suggest amending Figures 1, 4, and 5 as illustrated in the attached Figure 5. Considering that an artisan would clearly understand that the openings of the substrate are disposed parallel to the flow direction of the converter, this change is an obvious correction of an error.

No new matter has been introduced by the amendments. Reconsideration and allowance is respectfully requested in view of the above amendments and the following.

H-204258

Objection to the Drawings

The drawings have been objected to because in Fig. 5 the reference numeral "20" does not have a lead line to point to the appropriate element. Figure 5 has been amended to correct the informalities noted in the Office Action, the change has been circled for clarity. Accordingly, Applicant requests that the objection be withdrawn.

Objection to the Specification

The specification has been objected to because on page 5, lines 2-29 "end plenum 64 area" should be changed to "end plenum 64" for consistency. The specification has been amended to address the informalities noted in the Office Action and is believed to overcome the objection. Accordingly, Applicant requests that the objection be withdrawn.

Claim Rejection Under 35 U.S.C. § 112, second paragraph

Claims 2-5 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. More particularly, the Office Action recites that in Claim 2, line 3 it is unclear what is intended by "annular" in the phrase of "a first annular portion of said catalyst" and where such "annular" is shown in the drawings. Applicant has amended Claim 2 to remove the reference to "annular." Proper antecedent basis for "said first portion" is found at least in Claim 1. Since this amendment removes an unnecessary adjective, it does not narrow Claim 2. As Claims 3-5 depend from an allowable claim, they are by definition also allowable. Accordingly, Applicant respectfully requests reconsideration and allowance of Claims 2-5.

Claim Rejection Under 35 U.S.C. § 102(b)

A. Claims 1-3, 5-8, 10, 23-27, and 29-30 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 4,043,761 to Gaysert et al. Applicant respectfully traverses.

U.S. Patent No. 4,043,761 to Gaysert et al. (hereinafter "Gaysert") is directed to a device for the catalytic purification of exhaust gases of internal combustion engines, comprising a tubular metal housing, a tubular casing, and a substantially cylindrical monolithic catalyst carrier (Gaysert at Claim 1). Gaysert discloses that the tubular housing is connected at one end to an

H-204258

exhaust gas supply pipe and at the opposite end to an exhaust discharge pipe (Gayser at Column 3, lines 48-51).

Applicant's independent Claims 1 and 24, as amended, are directed to an exhaust system converter, comprising, a catalyst, having a first end portion, a first endplate comprising a first endplate support mechanism extending perpendicularly therefrom, a mat support, a shell, wherein the shell is disposed around the catalyst and the mat support, and is disposed around and in intimate contact with at least a portion of the first endplate.

Gayser, firstly, doesn't disclose an "endplate". From the figures, e.g., Figure 2, Gayser has a transition piece 16 (which appears to be integral with the housing 7), engaging an exhaust gas supply pipe (assumably part of the exhaust system and not part of the catalytic converter), which, in turn, engages a conical transition 19. Gayser fails to teach an endplate as is illustrated and claimed in the present application. Namely, Gayser at least fails to disclose a first endplate comprising a first endplate support mechanism extending perpendicularly therefrom. Instead, Gayser discloses that the tubular housing is connected at one end to an exhaust gas supply pipe and at the opposite end to an exhaust discharge pipe.

To anticipate a claim under 35 U.S.C. §102, a single source must contain all of the elements of the claim. *Lewmar Marine Inc. v. Barient, Inc.*, 827 F.2d 744, 747, 3 U.S.P.Q.2d 1766, 1768 (Fed. Cir. 1987), *cert. denied*, 484 U.S. 1007 (1988). Moreover, the single source must disclose all of the claimed elements "arranged as in the claim." *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 716, 223 U.S.P.Q. 1264, 1271 (Fed. Cir. 1984).

Since Gayser at least fails to disclose a first endplate comprising a first endplate support mechanism extending perpendicularly therefrom, Gayser does not contain all of the elements of the Applicant's claimed invention. Therefore, Gayser can not, by definition, anticipate Applicant's independent Claims 1 and 24. Further, as dependent claims from an allowable claim, Claims 2-3, 5-8, 10, 23, 25-27, and 29-30 are by definition also allowable. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this rejection.

H-204258

B. Claims 1-3, and 6-8 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 3,854,888 to Frieztzsche et al. Applicant respectfully traverses.

U.S. Patent No. 3,854,888 to Frieztzsche et al. (hereinafter "Frieztzsche") discloses a device for the purification of waste gases of internal combustion engines a housing, at least one monolith, one compressed steel body ring, and supporting and protecting rings (Frieztzsche at Claim 1). Frieztzsche discloses that the housing continues at both ends in extensions of frustoconical shape that taper down to a tubular diameter (Frieztzsche at Column 3, lines 43-45).

Frieztzsche does not disclose a first endplate comprising a first endplate support mechanism extending perpendicularly therefrom as is claimed in the present application. Furthermore, Frieztzsche does not disclose an endplate. The components of Frieztzsche appear to be a single component (housing and endcones). Further, if Frieztzsche is interpreted to have "endcones" and a "housing", the housing certainly does not have a diameter greater than that of the first endplate or have a housing disposed around and in intimate contact with at least a portion of the first endplate as is claimed in the present application. Since Frieztzsche fails to teach all of the elements of the Applicant's claimed invention as is required by 35 U.S.C. §102, Frieztzsche fails to anticipate the present application. Further, as dependent claims from an allowable claim, Claims 2-3, and 6-8 are by definition also allowable. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this rejection.

C. Claims 1-3, 5-7, 10-11, and 29 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 3,841,842 to Wiley. Applicant respectfully traverses.

U.S. Patent No. 3,841,842 to Wiley is directed to a catalytic converter comprising a cylindrical core member, a cylindrical metallic casing, first and second oppositely disposed and generally funnel shaped metallic casings (Wiley at Claim 1). Wiley further discloses that metallic casings 14 and 15 each have a cylindrical large open end rim portion of a diameter slightly greater than the diameter of the core member 11 (Wiley at Column 2, lines 44-48). Moreover, Wiley discloses that the annulus 18 is then welded to the inner surface of the casing 16, and the end of casing 15 is then slid over the end of casing 16 and welded (Wiley at Column 3, lines 52-55).

H-204258

Wiley does not disclose a first endplate forming an end of the converter and comprising a first endplate support mechanism extending perpendicularly therefrom as is claimed in the present application. In Wiley, the casings 14 and 15 form the ends of the converter. The annulus 18 comprises metals having different coefficients of thermal expansion such that during use the metals expand differently, causing contact to be maintained at point 18e. (Column 4, line 2 – Column 5, line 10) The annulus 18 is not an endplate, does not form an end of the converter and does not comprise a first endplate support mechanism extending perpendicularly therefrom as is claimed in the present application. Since Wiley does not contain all of the elements of the Applicant's claimed invention as required by 35 U.S.C. §102, Wiley fails to anticipate the present application. Further, as dependent claims from an allowable claim, Claims 2-3, 5-7, 10-11, and 29 are by definition also allowable. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection.

D. Claims 1-3, 6-8, and 29 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 4,432,943 to Musall et al. Applicant respectfully traverses.

U.S. Patent No. 4,432,943 to Musall et al. (hereinafter "Musall") is directed to a device for the purification of waste gases of internal combustion engines comprising a housing, at least one monolith, and the monolith having one compressed metallic body ring (Musall at Claim 1). Musall discloses that an end Chamber 5 is formed between the housing wall 1 and collar 9, angular ring 11 and end wall 8, which contains the resilient cushion 6 being shaped as an annular ring (Musall at column 2, lines 56-59).

Musall does not disclose a first endplate forming an end of the converter and comprising a first endplate support mechanism extending perpendicularly therefrom toward the catalyst as is claimed in the present application. Instead, Musall discloses a housing 1 with a wall 8 disposed adjacent a collar 9 to form a chamber 5. Also disclosed is an annular ring 11 disposed about an end of the catalyst body 7, spaced apart from the collar 9. (See Figure 1) Contrary to the contention of the Office Action, annular ring 11 is not an endplate and does not form an end of the converter. Since Musall does not contain all of the elements of the Applicant's claimed invention as required by 35 U.S.C. §102, Musall fails to anticipate the present application. Further, as dependent claims from an allowable claim, Claims 2-3, 6-8, and 29 are by definition

H-204258

also allowable. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this rejection.

E. Claims 1-3, 5-8, 10, and 29 stand rejected under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Patent No. 4,155,980 to Santiago et al. Applicant respectfully traverses.

U.S. Patent No. 4,155,980 to Santiago et al. (hereinafter "Santiago") is directed to an apparatus for catalytic purification of exhaust gases in an internal combustion engine comprising a catalyst body, a sheet metal housing, a shock adsorbing envelope, and a seal ring (Santiago at Claim 1). Santiago discloses that the end sections 6 may be connected with housing by spot welding in the region of the arched portions 7 forming an annular enlargement of the rings, beyond the diameter of the catalyst body (Santiago at column 3, lines 10-14).

Santiago does not disclose a first endplate comprising a first endplate support mechanism extending perpendicularly therefrom as is claimed in the present application. Rather, Santiago discloses that end sections 6 may be connected with housing by spot welding in the region of the arched portions 7 forming an annular enlargement of the rings, beyond the diameter of the catalyst body. The ring 5 of Santiago is not an endplate and does not comprise an endplate support mechanism extending perpendicularly therefrom as is claimed in the present application. Even if ring 5 is interpreted to be an endplate, Santiago fails to teach a shell, having a diameter greater than that of the endplate, wherein said shell is disposed around at least a portion of the endplate as is claimed in the present application. (See the Figure) Since Santiago does not teach all of the elements of the Applicant's claimed invention as is required by 35 U.S.C. §102, Santiago fails to anticipate the present application. Further, as dependent claims from an allowable claim, Claims 2-3, 5-8, 10, and 29 are by definition also allowable. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this rejection.

H-204258

F. Claims 1-3, 5-8, 10, and 23-27 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 5,250,269 to Langer. Applicant respectfully traverses.

U.S. Patent No. 5,250,269 to Langer (hereinafter "Langer") is directed to a catalytic converter comprising a monolith mounted in a canister by a heat-insulating mat (Langer at Claim 1). Langer discloses that each of the inlet and outlet end cones has an outer metal wall 18 and an inner metal wall 19 (Langer at column 4, lines 33-34).

Langer does not disclose a first endplate having a periphery, and the periphery defining a converter end and a mat support extending over at least a portion of the first endplate support mechanism, wherein the first endplate support mechanism is disposed between the mat support and the catalyst as is claimed in the present application. Rather, Langer discloses that each of the inlet and outlet end cones has an outer metal wall 18 and an inner metal wall 19. Since Langer fails to teach a converter end and a mat support extending over at least a portion of the first endplate support mechanism, wherein the first endplate support mechanism is disposed between the mat support and the catalyst, Langer fails to teach all of the elements of the Applicant's claimed invention as is required by 35 U.S.C. §102. Consequently, Langer fails to anticipate the present application. Further, as dependent claims from an allowable claim, Claims 2-3, 5-8, 10, and 23-27 are by definition also allowable. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection.

G. Claims 1-3, 5-8, 10, and 23-27 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 5,693,295 to Foster. Applicant respectfully traverses.

U.S. Patent No. 5,693,295 to Foster (hereinafter "Foster") is directed to a catalytic converter comprising a housing, a first catalyst-coated substrate, and a second catalyst substrate (Foster at Claim 1). Foster discloses that inlet 111 includes inner end cone 114, fit snugly within inlet 111 (Foster at column 5, lines 49-50).

Foster does not disclose a first endplate comprising a first endplate support mechanism extending perpendicularly therefrom toward the catalyst as is claimed in the present application. Rather, Foster discloses that inlet 111 includes inner end cone 114 having a conical portion diverging outward to fit snugly within inlet 111 and around substrate 122. (Figure 4) Since

H-204258

Langer fails to disclose a first endplate support mechanism extending perpendicularly therefrom toward the catalyst, Langer does not contain all of the elements of the Applicant's claimed invention as is required by 35 U.S.C. §102. Consequently, Langer fails to anticipate the present application. Further, as dependent claims from an allowable claim, Claims 2-3, 5-8, 10, and 23-27 are by definition also allowable. Accordingly, Applicant respectfully requests reconsideration and allowance of independent Claim 1.

Claim Rejection Under 35 U.S.C. § 103(a)

Claims 4, 9, 11-12, 14, and 28 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over either Foster, Langer, Santiago, Musall, Wiley, Frietzsche, or Gaysert in view of U.S. Patent No. 3,832,443 to Hass or U.S. Patent No. 3,441,281 to Keith et al. The Office Action alleges that it would have been obvious to one having ordinary skill in the art to substitute the catalyst of either Keith or Hass for the catalyst of the primary references for the known and expected results of obtaining the same results in the absence of unexpected results. Applicant respectfully disagrees that alone or in combination the references of record would render the present application obvious.

U.S. Patent No. 3,832,443 to Hass (hereinafter "Hass") is directed to a process for the catalytic conversion of a gas stream containing nitrogen oxides, wherein the gases are passed at elevated conversion temperatures through a contacting zone containing an oxidation reduction catalyst (Hass at Claim 1).

U.S. Patent No. 3,441,281 to Keith et al. (hereinafter "Keith") is directed to an apparatus for purifying internal combustion engine exhaust gases comprising a cylindrical casing, end closure means, an exhaust inlet, a cylindrical unitary refractory element-supported oxidation catalyst, a narrow annular space, an inwardly extending annular gas barrier member, another inwardly extending annular barrier member, and resilient flexible means (Keith at Claim 1).

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a prima facie case of obviousness. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Establishing a prima facie case of obviousness requires that all elements of the invention be disclosed in the prior art. *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970).

H-204258

First, as set forth above, neither Foster, Langer, Santiago, Musall, Wiley, Frietzsche, nor Gaysert teach or suggest an exhaust system converter, comprising, a catalyst, a first endplate positioned adjacent to a first end portion of the catalyst, the first endplate forming a first end of said converter and comprising a first endplate support mechanism extending perpendicularly therefrom toward the catalyst, a mat support substantially covering said catalyst and at least a portion of said first endplate support mechanism, wherein said first endplate support mechanism is disposed between said mat support and said catalyst, and a shell having a diameter greater than that of the first endplate, wherein said shell is disposed around said catalyst and said mat support, and is disposed around and in intimate contact with at least a portion of said first endplate. (Claim 1) Similarly, neither Keith nor Haas teach or suggest such a converter. Consequently, Keith and Haas fail to remedy the deficiencies of Foster, Langer, Santiago, Musall, Wiley, Frietzsche, and Gaysert.

As none of the above-cited references contain, alone or in combination, *inter alia*, a first endplate positioned adjacent to a first end portion of the catalyst, the first endplate forming a first end of said converter and comprising a first endplate support mechanism extending perpendicularly therefrom toward the catalyst, a mat support substantially covering said catalyst and at least a portion of said first endplate support mechanism, wherein said first endplate support mechanism is disposed between said mat support and said catalyst, these references, alone and in combination, fail to render the present application obvious. Accordingly, Applicant respectfully requests reconsideration and allowance of these claims. Accordingly, reconsideration and withdrawal of the rejection is requested.

The above remarks and amendments are believed to fully comply with the Office Action. Reconsideration and withdrawal of the rejections and allowance of the claims is respectfully requested.

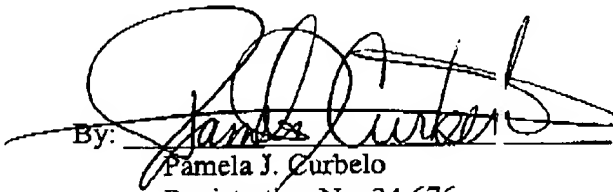
H-204258

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 50-0831 maintained by Assignee.

Respectfully submitted,

MYERS

CANTOR COLBURN LLP
Applicant's Attorneys

By: 
Pamela J. Curbelo
Registration No. 34,676

Date: August 26, 2002
Customer No.: 23413
Phone: (860) 286-2929

H-204258

MARKED-UP VERSIONS OF THE AMENDMENTS**IN THE SPECIFICATION**

Please amend the specification as follows, illustrated below in "marked-up" format:

Page 5, lines 20-29:

The particularly preferred structural support for securing an end plate 30 to a substrate 20 prior to size reduction of an outer shell 50 to the assembly is a securing mechanism 32 affixed to an inner side of the end plate. The securing mechanism 32 is made of a material suitable for use in high temperature environments and is of a diameter greater than that of the catalyst substrate 20. This allows for the securing mechanism 32, which can have any appropriate geometry such as annular, conical, cylindrical or other, to extend around an annular end portion of the substrate 20, as is shown in Figure 1, forming a gas shield to protect optional insulation material in the annulus of the end plenum 64 area.

IS: Please amend Claims 1, 2, 14, and 24 as follows:

Amended) An exhaust system converter, comprising:

t;

ndplate, positioned adjacent to a first end portion of said catalyst, said first
g a first end of said converter and comprising a first endplate support mechanism
ndicularly therefrom toward said catalyst;

upport, substantially covering said catalyst and at least a portion of said first
t mechanism, wherein said first endplate support mechanism is disposed between
t and said catalyst; and

having a diameter greater than that of the said first endplate, wherein said shell is
said catalyst and said mat support, and is disposed around and in intimate
least a portion of said first endplate.

Amended) The exhaust system converter of claim 1, ~~wherein said first endplate~~
~~first endplate support mechanism, and wherein said first endplate support~~
positioned around said a first annular end portion of said catalyst.

Amended) The exhaust system converter of claim 1, ~~wherein said first end plate~~
~~and said shell extends about halfway across said periphery.~~

H-204258

24. (Amended) An exhaust system converter, comprising:

a catalyst;

a first endplate, positioned adjacent to a first end portion of said catalyst, said first endplate forming a first end of said converter and comprising a first endplate support mechanism extending perpendicularly therefrom;

a second endplate, positioned adjacent to a second end portion of said catalyst, said second endplate forming a second end of said converter and comprising a second endplate support mechanism extending perpendicularly therefrom toward said catalyst;

a mat support substantially covering said catalyst, said mat support extending beyond a face of the catalyst over at least a portion of said first endplate support mechanism, wherein said first endplate support mechanism is disposed between said mat support and said catalyst; and

a shell disposed around said catalyst and said mat support, and is disposed around and in intimate contact with at least a portion of said first endplate and said second endplate.

H-20458
Delphi Technologies, Inc., Troy, MI

1/3

See figure 5

FIG. 1

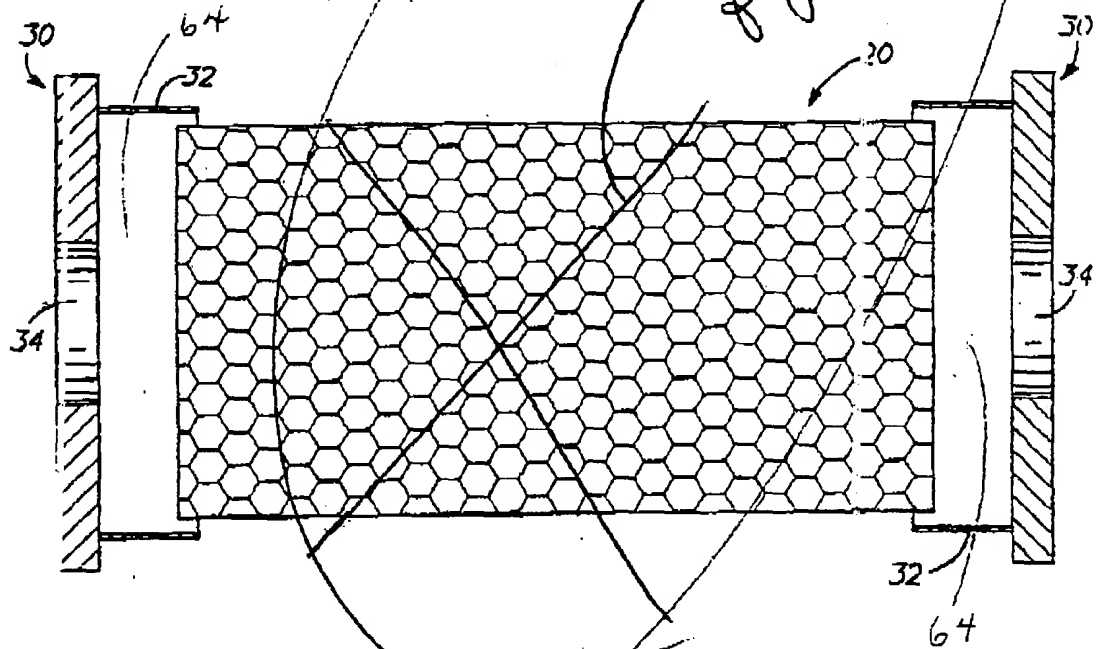


FIG. 2

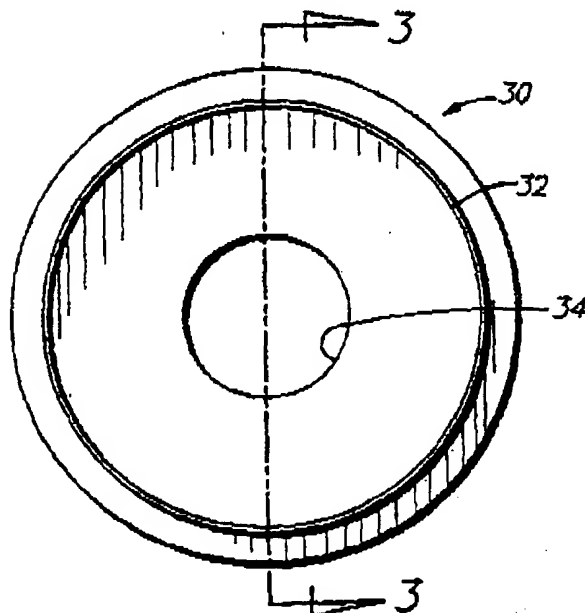
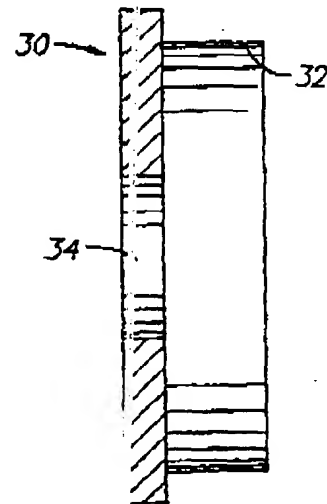


FIG. 3



H-204258
Delphi Technologies, Inc., Troy, MI

2/3

see Figure 5

FIG. 4

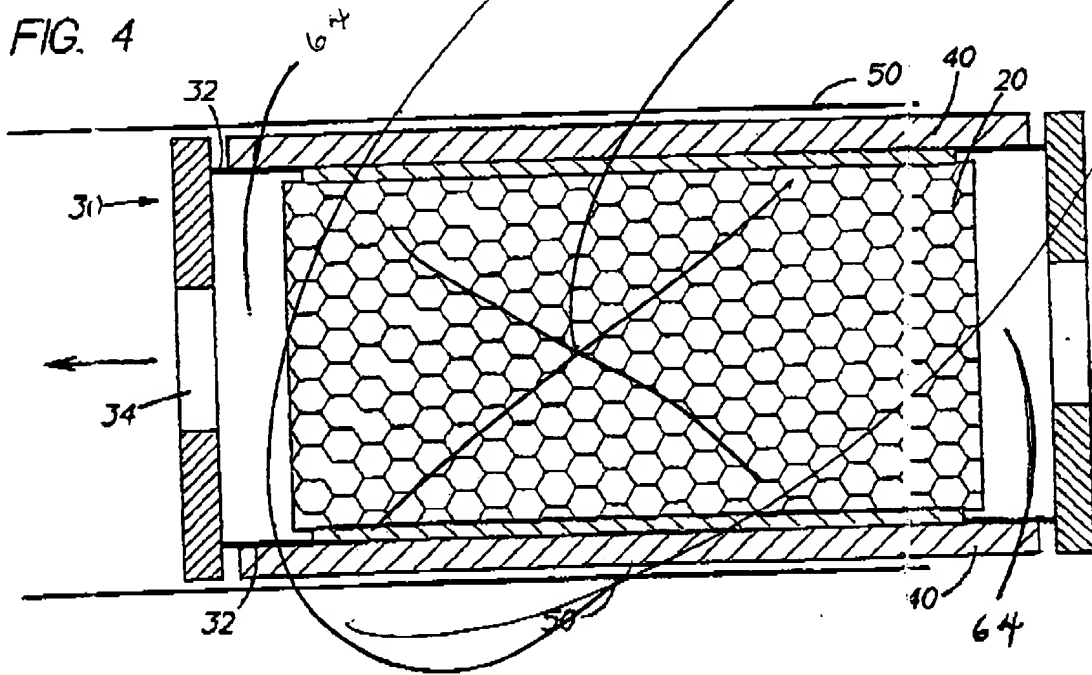


FIG. 5

